

***REMARKS***

The Office Action mailed April 15, 2003 (Paper No. 0403) has been carefully reviewed and the foregoing amendments are made in response thereto. In view of the amendments and the following remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Applicants respectfully submit that no prohibited new matter has been introduced by the amendments. Support for the amendments to the claims can be found throughout the specification and claims as originally filed. Entry of the amendment is respectfully requested.

***Status of the claims***

Upon entry of the foregoing amendment, claims 1-9 will be pending.

***The rejection of claim 12 under 35 U.S.C. § 112 second paragraph***

Claims 1-9 stand rejected under 35 U.S.C. § 112 second paragraph for allegedly being indefinite. Applicants traverse the rejections for the following reasons.

(a) Claims 1-9 are alleged to be indefinite for the recitation in claim 1 step (b) of “placing a target...for hybridization of the probe DNA”. Without acquiescing to the grounds of the rejection, Applicants have amended claim 1, step (b) as suggested in the office action. Withdrawal of the rejection is requested.

(b) Claims 1-9 are alleged to be indefinite for lack of antecedent basis in claim 1, step (c). Without acquiescing to the grounds of the rejection, Applicants have amended claim 1 step (b) to recite “to provide hybridized DNA” as suggested in the office action. Withdrawal of the rejection is requested.

(c) Claims 1-9 are alleged to be indefinite for lack of antecedent basis in claim 1 step (d). Without acquiescing to the grounds of the rejection, Applicants have amended claim 1 step (d) to recite “the hybridized DNA”. Withdrawal of the rejection is requested.

(d) Claims 1-9 are alleged to be indefinite for lack of clarity in claim 1 step (e). Without acquiescing to the grounds of the rejection, Applicants have amended claim 1, step (e) as suggested in the office action. Withdrawal of the rejection is requested.

(e) Claims 2-4 are alleged to be indefinite for lack of clarity in claim 2. Without acquiescing to the grounds of the rejection, Applicants have amended claim 2 by inserting the word “further” as suggested in the office action. Withdrawal of the rejection is requested.

(f) Claims 2-4 are alleged to be indefinite for lack of antecedent basis in claim 2. Without acquiescing to the grounds of the rejection, Applicants have amended claim 2 as suggested in the office action. Withdrawal of the rejection is requested.

(g) Claim 4 is alleged to be indefinite for its recitation of an abbreviation. Without acquiescing to the grounds of the rejection, Applicants have inserted the full term as suggested in the office action. Withdrawal of the rejection is requested.

(h) Claim 7 is alleged to be indefinite for lack of clarity. Without acquiescing to the grounds of the rejection, Applicants have amended claim 7 by inserting the word “further” as suggested in the office action. Withdrawal of the rejection is requested.

(i) Claim 7 is alleged to be indefinite for lack of clarity. Without acquiescing to the grounds of the rejection, Applicants have amended claim 7 as suggested in the office action. Withdrawal of the rejection is requested.

(j) Claim 7 is alleged to be indefinite for confusing syntax. Without acquiescing to the grounds of the rejection, Applicants have amended claim 7 as suggested in the office action. Withdrawal of the rejection is requested.

(k) Claim 8 is alleged to be indefinite for lack of antecedent basis in claim 1. Without acquiescing to the grounds of the rejection, Applicants have amended claim 8 to recite “intercalated” instead of “fixed” as suggested in the office action. Withdrawal of the rejection is requested.

***The rejection of claims 1-2 and 5-9 under 35 U.S.C. § 102(e) as being allegedly anticipated by Hashimoto et al. (U.S. Pat. No. 5,776,672)***

Claims 1-2 and 5-9 stand rejected under 35 U.S.C. § 102(e) for allegedly being anticipated by Hashimoto *et al.* (U.S. Pat. No. 5,776,672). Applicants respectfully traverse the rejection for the following reasons.

The ‘672 patent discloses that a DNA is immobilized onto the tip of an optical fiber (abstract). In marked contrast, the instant invention claims a method wherein DNA is

immobilized on a chip (claim 1). Nowhere in the '672 patent is there any teaching or suggestion of immobilizing a probe DNA on a chip. In fact, a computer-aided search of the '672 patent, as it is posted on the USPTO website, reveals that the word "chip" is not present anywhere in the '672 patent. Lacking any teaching or suggestion of a chip, the '672 patent cannot anticipate the claims.

***The rejection of claims 1-9 under 35 U.S.C. § 102(e) as being allegedly anticipated by Lee et al. (U.S. Pat. No. 6,342,359)***

Claims 1-9 stand rejected under 35 U.S.C. § 102(e) for allegedly being anticipated by Lee et al. (U.S. Pat. No. 6,342,359). Applicants respectfully traverse the rejection for the following reasons.

The '359 patent discloses a method for detecting light wherein electrochemiluminescent material is immobilized on the surface of an electrode (see column 6, lines 34-40). This is in marked contrast to the present invention wherein the method for detecting light is driven by introducing an electrochemiluminescent reaction fluid to the chip (claim 1). Nowhere in the '359 patent is there any teaching or suggestion of an electrochemiluminescent fluid. In fact, a computer-aided search of the '359 patent, as it is posted on the USPTO website, reveals that the word "fluid" is not present anywhere in the '359 patent. Lacking any teaching or suggestion of an electrochemiluminescent fluid, the '359 patent cannot anticipate the claims. Withdrawal of the rejection is respectfully requested.

***The rejection of claim 4 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Hashimoto et al. (U.S. Pat. No. 5,776,672) in view of Blackburn et al. (U.S. Pat. No. 6,264,825)***

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Hashimoto et al. (U.S. Pat. No. 5,776,672) in view of Blackburn et al. (U.S. Pat. No. 6,264,825). Applicants respectfully traverse the rejection for the following reasons.

The comments made above with respect to the '672 patent are incorporated herein by reference in their entirety. As noted above, the '672 patent does not teach or even remotely suggest immobilizing DNA on a chip.

Respectfully, the '825 patent does not cure the deficiencies in the '672 patent because the '825 patent is directed to binding acceleration techniques in which an analyte is detected electronically (column 1, lines 10-15). Nowhere in the '825 patent is there any teaching or disclosure of immobilizing DNA on a chip in a method for generating light when applying electricity to an intercalator. Applicants respectfully assert that there would have been no motivation to combine the teachings in the '672 and '825 patents because they are directed to unrelated processes whose method and detection steps are distinct. Lacking any motivation to combine the references, a person having ordinary skill in the art would have had no reasonable expectation of success in arriving at the claimed invention. Withdrawal of the rejection is requested.

***The rejection of claims 1-8 under the judicially created doctrine of obviousness-type double patenting for allegedly being unpatentable over U.S. Pat. No. 6,342,359***

Claims 1-8 stand rejected under the judicially created doctrine of obviousness-type double patenting for allegedly being unpatentable over U.S. Pat. No. 6,342,359. Applicants respectfully traverse the rejection for the following reasons.

The comments made above with respect to the '359 patent are incorporated herein by reference in their entirety. As noted above, Applicants respectfully assert that the presently claimed invention is neither taught nor suggested by the '359 patent. Withdrawal of the rejection is respectfully requested.

***Conclusion***

In view of the foregoing remarks, Applicants respectfully request withdrawal of all outstanding rejections and early notice of allowance to that effect. Should the Examiner believe that a telephonic interview would expedite prosecution and allowance of this application, she is encouraged to contact the undersigned at her convenience.

Applicants believe that no fees are required with this filing, however, except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time

fees, or credit any overpayment to Deposit Account No.50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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